

## New machine makes life bearable for dialysis patients

by Jim Hillibish

I'm writing this 20 minutes after a dialysis treatment. For the past seven years, I'd be in bed now, recovering from the shock running all of my blood through a machine to filter out the toxins and water. Eight hours later, I'd be fine and ready for work.

**HOOKED UP** - Jim Hillibish logs his vital signs every half hour on his NxStage home dialysis machine. Then he reads, watches videos or listens to his music player to pass the two hours of treatment time. CNS Photo. Everybody reacts to dialysis differently. Our nurses at Aultman Dialysis Center of Canton, Ohio, are in a constant battle to keep us alive. There were times when my blood pressure would suddenly lose 30 points and I was near unconsciousness. They always brought me back.

Over the years, I kept wondering when technology would improve on the dialysis machine. Then 16 months ago, I spotted a story on the Associated Press wire about a device about the size of a bread box that did the deed at home. You can even take it on vacation.

I made copies for the supervisors at the dialysis center. "I'll be the guinea pig - I want this," I told everybody.

### USER IN CONTROL

The device is the NxStage System One, a total rethink of the ways and means of dialysis. It's not for everyone. It transfers all of the responsibility for running dialysis to the user.

The dialysis personnel liked what they saw. Dialysis was growing faster in my area than the centers can handle, primarily to the epidemic of diabetes, which can destroy kidneys. Aultman's center was handling three shifts of patients.

The benefit of NxStage to them would be to free up space while still maintaining service. The benefit to me would be using new technology and not having to travel to the center three times a week.

Getting approval was tortuous. The hospital had to certify nurses for the home system, then the Ohio Department of Health had to certify the certifiers. It took Medicare eight months to approve everything.

I went on the machine in November. After the first time, instead of heading to bed I went out and raked leaves for two hours.

NxStage treatments are a lot closer to natural kidneys than the traditional machines. I undergo dialysis six times a week for two hours. You can be on the big machines three times a week for 3 1/2 to 4 hours.

The latter schedule has nothing to do with health. It's entirely economic.

In the old method, your body suffers either toxin overflow or the shock of suddenly being cleansed, where you might lose 5 to 10 pounds of water weight during a session.

We soon noticed the NxStage advantages. My blood labs improved greatly, as much as 75 percent better for some tests. This allowed me to cut back on medications.

For the first time, I could drink more than 48 ounces a day and didn't have to follow the usual dialysis diet so strictly. My blood pressure, a history of peaks and valleys for seven years, suddenly was evening out to near normal. I could stand without feeling dizzy and my strength, appetite and sleeping improved.

This machine changed my life. It has the potential to vastly improve the lives of many in our dialysis community.

## LITTLE COMPANY THAT COULD

NxStage is a medical technology startup founded in 1999 in Lawrence, Mass. Until then, dialysis was driven to meet the needs of the providers. Like the Internet, NxStage was consumer-driven, a remarkable change in business culture.

The result is a benchmark device that uses technology to solve a complex bioscience problem. It's built around a computer with its own operating system that controls its pumps and filtration.

First thing I noticed was the network port at the rear. You plug it into your home Internet network or telephone, and every night, your box sends a report to NxStage logging your own health and that of the machine. Software updates arrive seamlessly over the same connection.

We've found the NxStage support folks are committed to us and to Aultman on every level. We're partners with them.

My dialysis center's nurses train candidates for three weeks and expect mistakes. The machine, through error messages, will not let anything dangerous happen. A second person certified by the same training is required

for home use. My wife and I were looking for an activity we could do together, and we found it here.

My center screens potential patients carefully. They must be able to follow instructions. It's a lot like flying a plane. Even experienced pilots always follow a preflight checklist. Patients must fill out run sheets during each treatment that are monitored for compliance. The proof of getting it right is our monthly blood tests, an indelible report card.

I tweaked my settings for an optimum treatment. This control has resulted in my near-normal blood pressure. Blood pressure and body weight are the opposing forces of dialysis. The quest is to balance them. We're doing a good job of that.

The Aultman Dialysis Center expects to have 15 patients on home machines this year, an entire shift's worth at the center. That's 15 more badly needed spaces available for others at the center.

Thirty-five years ago, kidney failure was a death sentence. Now we have machines and skilled people who save our lives.

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